REMARKS

In the Office Action, dated December 27, 1995, claims 1-17 were examined with the result that all claims were rejected. In response, applicant has canceled claims 1-3 and 6-9, rewritten claims 4-5 and 10-17, and added new claim 18. In view of the above amendments and following remarks, reconsideration of this application is requested.

Before turning to the rejections of record, applicant would like to point out to the Examiner it has also added a paragraph to the specification relating to government rights. Since government support was utilized in connection with this invention, the rules require addition of such a paragraph, which, of course, does not constitute new matter.

In the Office Action, claims 1 and 4-17 were rejected under 35 U.S.C. §112, first paragraph, as being enabling only for claims limited to a kidney disorder that is chronic renal failure. In response, applicant has canceled original claim 1 and replaced this claim with new independent claim 18. New claim 18 calls for a method of treating a patient having renal osteodystrophy. Thus, applicant has defined a particular "kidney disorder" to which the invention is directed. Support for this amendment can be found in the specification at, for example, page 16, lines 25-31. Thus, applicant has defined the particular kidney disorder to which the invention is directed. Accordingly, applicant believes the Examiner's §112, first paragraph rejection should now be withdrawn.

In the Office Action, the specification was objected to under 35 U.S.C. §112, first paragraph, as failing to provide an enabling disclosure. It is the Examiner's position that due to the limited data provided in applicant's specification, undue experimentation would be required by one skilled in the art to determine which vitamin D compound exhibits the desired biological activities called for by original claim 1. In response, applicant has canceled original claims 1 and 6-9, and replaced these claims with new independent claim 18 which is limited to 19-nor-vitamin D_2 type compounds. As new claim 18 indicates, only vitamin D_2 type compounds where the side chain has a double bond in the 22,23 carbon positions are now encompassed therein. All other vitamin D compounds, such as vitamin D_3 compounds, have been excluded. Accordingly, applicant believes that the vitamin D_2 compounds now encompassed by claim 18 is a reasonable species to be claimed in view of the showing provided in the specification with

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respect to 19-nor-1,25-dihydroxyvitamin D_2. The Examiner should further note that claims 10-13 claim four different specific vitamin D_2 compounds. Applicant refers the Examiner to the specification at page 6, lines 4-27 for illustrations of specific side chains for vitamin D_2 type compounds which clearly also provides adequate support in the specification for the side chain now defined by new claim 18. Accordingly, applicant believes the Examiner should now withdraw the §112, first paragraph, rejection.

In the Office Action, claims 1, 4-7 and 14-17 were rejected under 35 U.S.C. §103 as being unpatentable over the Lee et al article and DeLuca et al 5,246,925 patent. The Examiner believes the claimed invention would be obvious because Lee et al teaches the administration of 1,25-dihydroxyvitamin D_3 to "normalize" serum phosphorus in hyperphosphatemic rats and DeLuca et al '925 teaches the administration of 19-nor vitamin D compounds to treat hyperparathyroidism and thus suggests the claimed invention.

In response, applicant first will discuss the Lee et al article. It should be noted that the procedure of Lee et al was not carried out in animals having renal failure. In other words, in all of the experiments, the kidneys of the rats are functioning normally. In contrast, new claim 18 relates to a method of administering the 19-nor vitamin D_2 compounds in a situation where there is renal failure. Thus, the conclusions drawn by Lee et al do not necessarily equate with applicant's use.

Secondly, and more importantly, the Lee et al article indicates that the administration of 1,25-dihydroxyvitamin D_3 "normalizes" serum phosphorus in both hypo and hyperphosphatemic rats. In other words, Lee et al reports that the administration of 1,25-dihydroxyvitamin D_3 in hypophosphatemic rats <u>increases</u> levels of phosphorus to their normal concentration. Likewise, in hyperphosphatemic rats, the administration of 1,25-dihydroxyvitamin D_3 <u>reduces</u> phosphorus levels to their normal concentrations. Such a teaching is directly opposite from what applicant is teaching. In other words, Lee et al teaches that vitamin D_3 compounds <u>change</u> serum phosphorus levels whereas applicant teaches the administration of the claimed 19-nor vitamin D_2 compounds results in <u>no change</u> in serum phosphorus levels. Thus, one skilled in the art would conclude from what is disclosed in Lee et al that the administration of

vitamin D compounds will change serum phosphorus levels. Such a suggestion does not correlate with applicant's findings of no change in serum phosphorus levels when administering 19-nor vitamin D_2 compounds. As a result, the teachings of Lee et al do not "suggest" applicant's teachings, but instead teach away from applicant's teachings.

With respect to the DeLuca et al '925 patent, the Examiner refers to the disclosure found at column 1, lines 42-43 thereof. This disclosure, however, does not "suggest" the use of 19-nor vitamin D compounds to treat renal osteodystrophy. A close reading of this portion of the specification of the '925 patent indicates that what is taught is that "several of these known compounds" (see column 1, lines 37-38) exhibit potent activity in vivo or in vitro and thus have been proposed for use in treatment of various diseases such as renal osteodystrophy. The disclosure clearly does not say which of the previously listed compounds are being referred to, and more specifically, clearly does not state that 19-nor vitamin D_2 compounds have been used, or suggested for use, in the treatment of renal osteodystrophy. Thus, this portion of the specification of the '925 patent clearly does not suggest or teach the use of 19-nor vitamin D_2 compounds in the treatment of renal osteodystrophy.

It is also important to note that the specification of the '925 patent only suggests the use of 19-nor vitamin D compounds in the treatment of malignancies, skin disorders and secondary hyperparathyroidism. Applicant refers the Examiner to column 7, line 60 through column 8, line 9 and again at column 8, lines 27-39. There is no specific mention of the use of 19-nor vitamin D_2 compounds for the treatment of renal osteodystrophy.

It should further be noted that the specification of the '925 patent never even mentions serum phosphorus. In addition, there is no data presented in the specification of the '925 patent relating to serum phosphorus. Thus, the '925 patent is completely devoid of any teachings relating to serum phosphorus levels and/or the use of 19-nor vitamin D_2 compounds to treat renal osteodystrophy.

In conclusion, it is not seen how the Lee et al article and the DeLuca '925 patent, either alone or in combination, suggests the present invention as now claimed in new claim 18. The Lee et al article teaches that vitamin D compounds change serum phosphorus levels, which is directly opposite from what applicant teaches, and the DeLuca et al '925 patent never even

mentions serum phosphorus or the use of 19-nor vitamin D compounds in the treatment of renal osteodystrophy. Thus, it is believed that there is no support for the Examiner's position that the Lee et al and DeLuca '925 references suggest applicant's claimed invention. In fact, it is believed that the Lee et al article teaches away from applicant's invention and the DeLuca '925 patent adds nothing that would change or modify the Lee et al teachings. Accordingly, applicant believes claims 4-5 and 10-18 are all now allowable.

Applicant has also submitted a Supplemental Information Disclosure Statement with this response. The Supplemental IDS submits and requests that U.S. Patent 5,063,221 be made of record in the present case. It should be noted by the Examiner that the '221 patent does not add anything of significance to the Lee et al or DeLuca et al '925 references. The '221 patent merely teaches the treatment of hyperparathyroidism with the use of 1α-hydroxyvitamin D derivatives. The Examiner should note that these derivatives are not 19-nor derivatives, but instead contain the methylene group at the 19 position attached to the ring A structure. Thus, the '221 patent also does not teach or suggest applicant's claimed invention.

An effort has been made to place this application in condition for allowance and such action is earnestly requested.

Respectfully submitted,

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